



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE  
GOVERNOR

EUGENE A. CONTI, JR.  
SECRETARY

June 21, 2012

Commander, Fifth Coast Guard District (dpb)  
Federal Building  
431 Crawford Street  
Portsmouth, VA 23704-5004

ATTN: Mr. Waverly Gregory  
Chief, Bridge Administration

Dear Sir:

Subject: **Application for Approval of Lighting Plan** for the proposed replacement of the Herbert C. Bonner Bridge across Oregon Inlet on NC 12 from Hatteras Island to Bodie Island, Dare County, Federal Aid Projects BRNHF-0012 (48) and BRNHF-0012 (36), TIP B-2500 Phase I. WBS 32635.1.4.

Application is hereby made for approval of a lighting plan for the proposed replacement of the existing Herbert C. Bonner Bridge on NC 12 over Oregon Inlet, Dare County, NC. An Application for a Coast Guard Bridge Permit is being submitted separately.

This application is submitted in accordance with 33 CFR 118 and the guidance in USCG Publication *Bridge Lighting and Other Signals*.

Plan view and elevation drawings of the proposed bridge structure showing the proposed navigation lights are attached. A vicinity map showing the project area and the location of the proposed bridge is also attached. There are no other bridges within 1,000 feet of the proposed bridge.

The navigation lights are designed to be relocated between seven navigation spans. The nature of the waterway is such that the navigation channel constantly shoals and shifts and therefore the USCG and USACE would be able to relocate the lights depending on inlet conditions. The replacement bridge will have a 2,450 foot navigation zone comprised of seven navigation spans (Spans 21 to 27) each with horizontal clearance of greater than 275 feet between protective structures. Those seven spans and the span north of the chosen navigation span will be wired for solar array platforms and the cross deck embedded conduit. This lighting design will allow the lights to be transferred to the span that provides the best navigation conditions at the time. Currently, the plans show the navigation lighting will be placed at the edges of the 200 foot navigation channel, directly on center within Span 27. The existing 130 foot navigable channel

is adjacent to Span 27 and is slightly east of the shown 200 foot navigation channel. Placement of the lighting will be determined by the USCG and USACE during final bridge construction phase. The overall design will significantly improve navigability for waterway users at Oregon Inlet.

If you have any questions or need additional information, please contact Michael Turchy at 919-707-6157 or [maturchy@ncdot.gov](mailto:maturchy@ncdot.gov).

Sincerely,



*for*

Gregory J. Thorpe, Ph.D., Manager  
Project Development and Environmental Analysis Unit

Enclosures: Bridge Lighting Plans (Sheets 1 - 3) (two copies)  
Vicinity map (Sheet 4) (two copies)  
Bridge Plans (Sheets 5 - 25) (two copies)

cc w/o attachments:

Tracey Wheeler, USACE Washington Regulatory Field Office

NAVIGATION UNIT (SEGMENTAL STRUCTURE)

SPANS 19 THRU 29

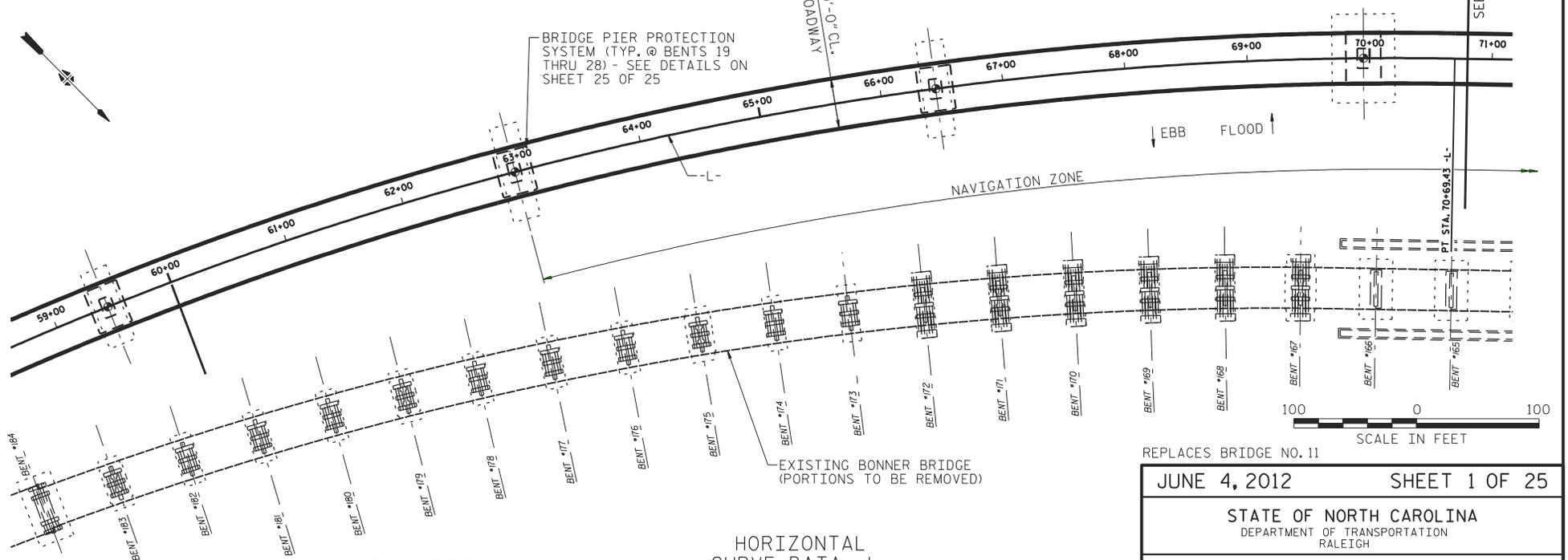
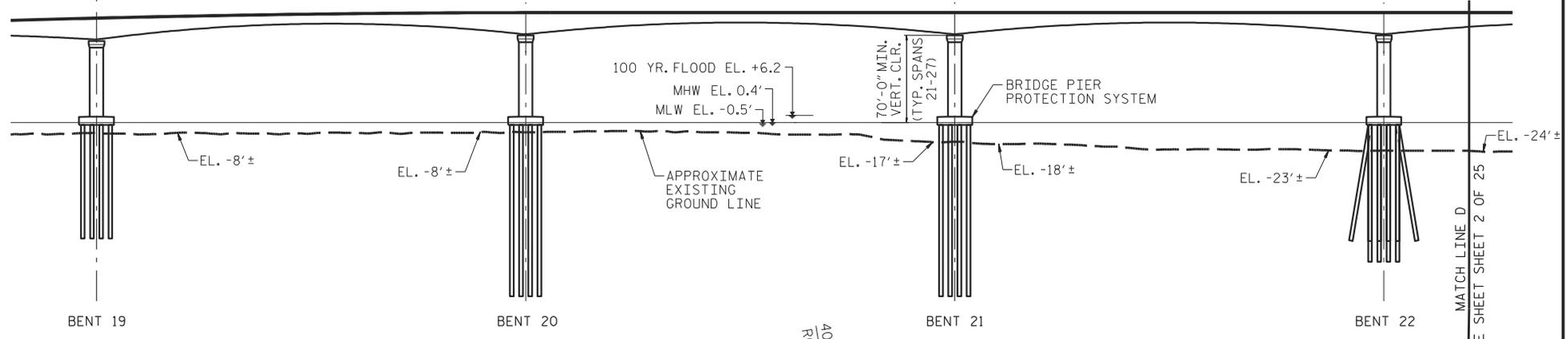
9 SPANS @ 350'-0" = 3150'-0"

SPANS 20 THRU 28

200'-0"  
SPAN 19

+4.9966% Δ 0.0000%  
PVI STA. 59+35.00  
PVI EL. = 90.40  
VC = 760.00'  
GRADE DATA -L-

19 (20) (\*) 21 (22) (\*) 23 (\*)



(\*) NOTE:

HORIZONTAL CURVE DATA -L-

PI STA 62+28.30  
Δ = 35° 24' 44.6" (RT)  
D = 2° 02' 07.3"  
L = 1,739.85'  
T = 898.72'  
R = 2,815.00'

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 1 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY

PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
OVER THE OREGON INLET  
BETWEEN RODANTHE AND NAGS HEAD  
0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)



NAVIGATION UNIT (SEGMENTAL STRUCTURE)

SPANS 19 THRU 29

9 SPANS @ 350'-0" = 3150'-0"  
SPANS 20 THRU 28

200'-0"  
SPAN 29

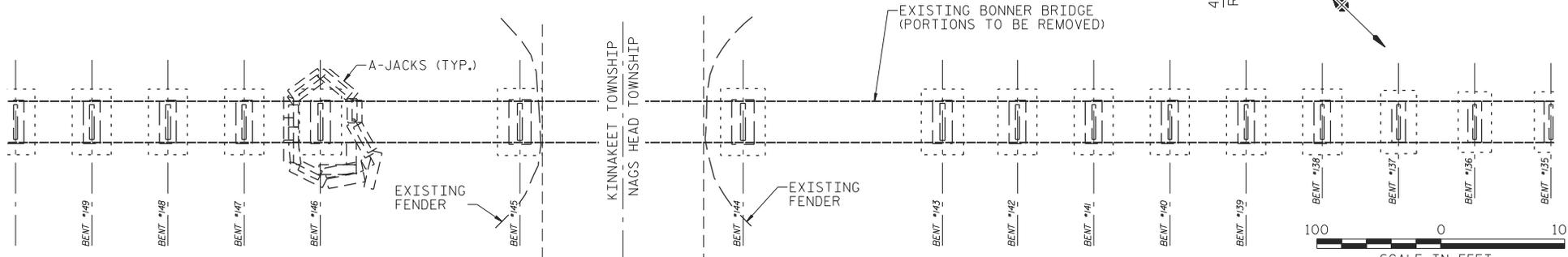
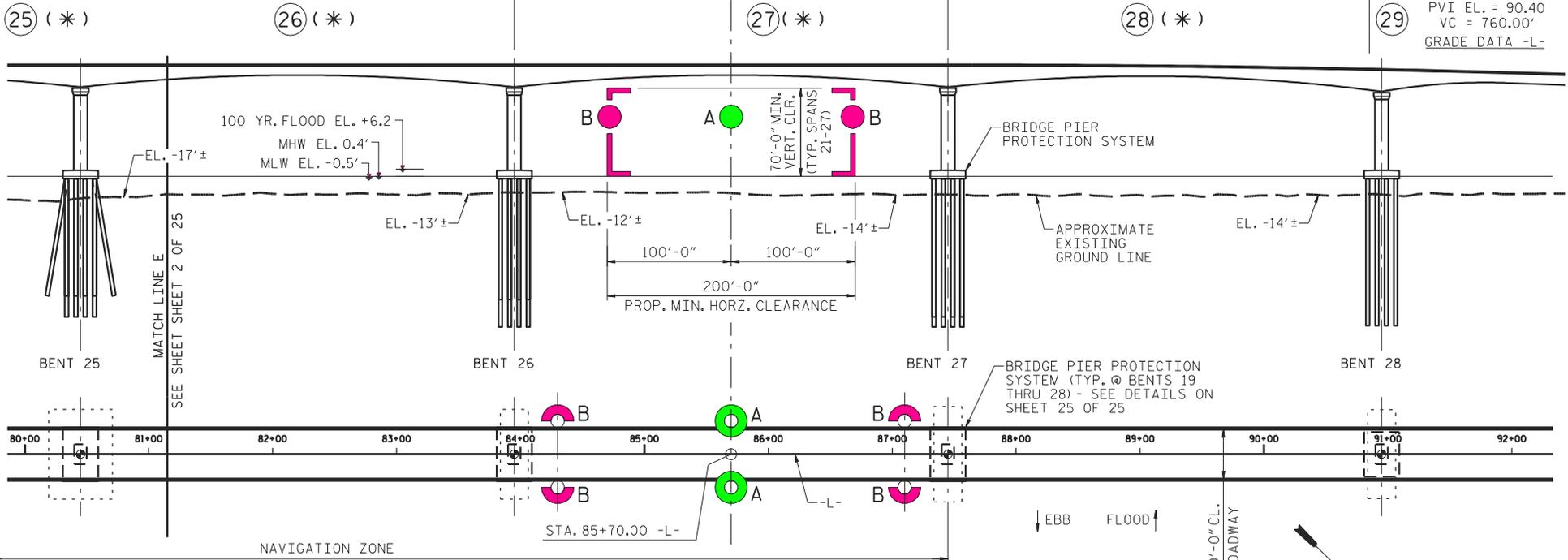
0.0000% Δ -4.9991%

PVI STA. 91+45.00

PVI EL. = 90.40

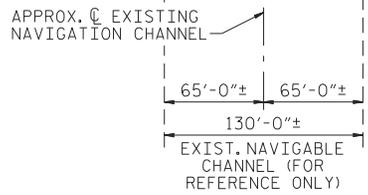
VC = 760.00'

GRADE DATA -L-



(\*) NOTE:  
NAVIGATION LIGHTING WILL BE PROVIDED INITIALLY IN SPAN 27. DESIGN INCLUDES PROVISIONS TO ALLOW RELOCATION OF NAVIGATION LIGHTING TO SPANS 20, 21, 22, 23, 24, 25, 26, OR 28 AS NEEDED IN THE FUTURE

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<b>A</b>	360° GREEN NAVIGATION LIGHT @ CHANNEL CENTERLINE
<b>B</b>	180° RED NAVIGATION LIGHT @ CHANNEL MARGIN

REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 3 OF 25

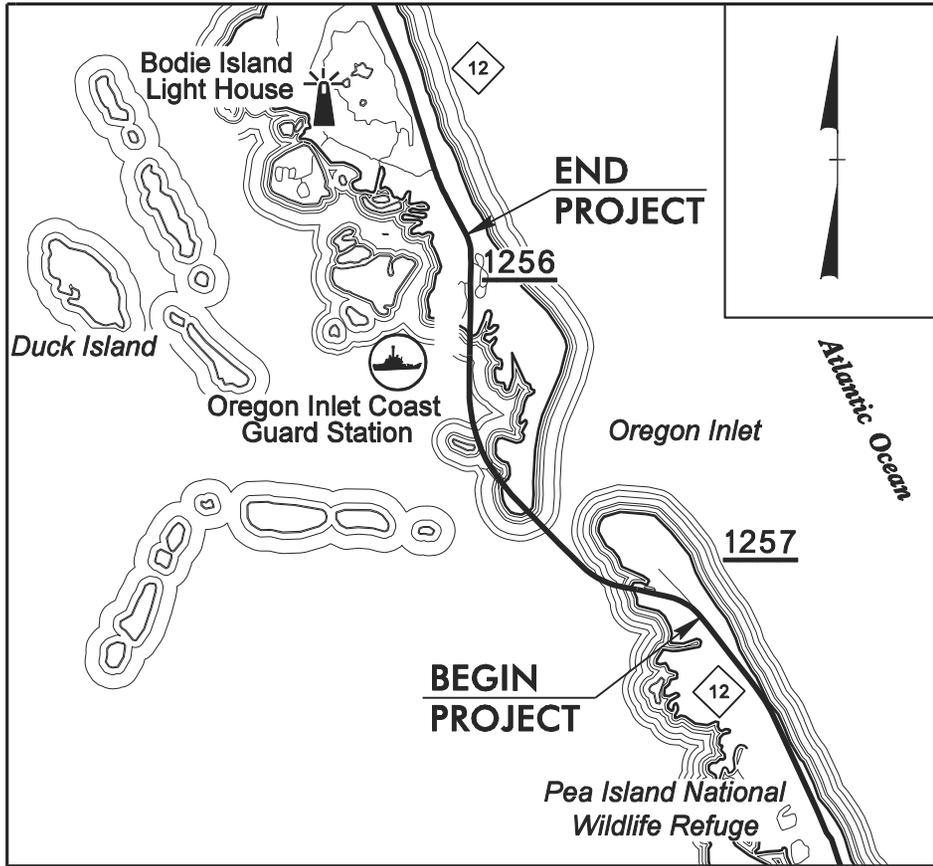
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY

PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
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STATE PROJECT NO.: B-2500 (PHASE I)

DATUM: NAD83/NSRS2007



**VESSEL COLLISION LOADS**

VESSEL COLLISION FORCES SHALL BE AS SHOWN BELOW FOR THE GIVEN LOAD/SCOUR CASE. LOAD COMBINATION FOR VESSEL COLLISION SHALL BE PER THE AASHTO LFRD BRIDGE DESIGN SPECIFICATIONS FOR THE EXTREME EVENT II LIMIT STATE.

LOAD/SCOUR CASE (1) = DESIGN VESSEL WITH AMBIENT BED ELEVATION (1/2 LONG TERM SCOUR)

LOAD/SCOUR CASE (2) = MINIMUM IMPACT VESSEL WITH 1/2 OF 100 YEAR SCOUR

DESIGN VESSEL = USACE DREDGE ATCHAFALAYA (1000 TONNE) OWNED BY STERLING EQUIPMENT, INC. OF QUINCY, MA.

MINIMUM IMPACT VESSEL = 35' X 195' EMPTY HOPPER BARGE (181.4 TONNE)



**State of North Carolina**

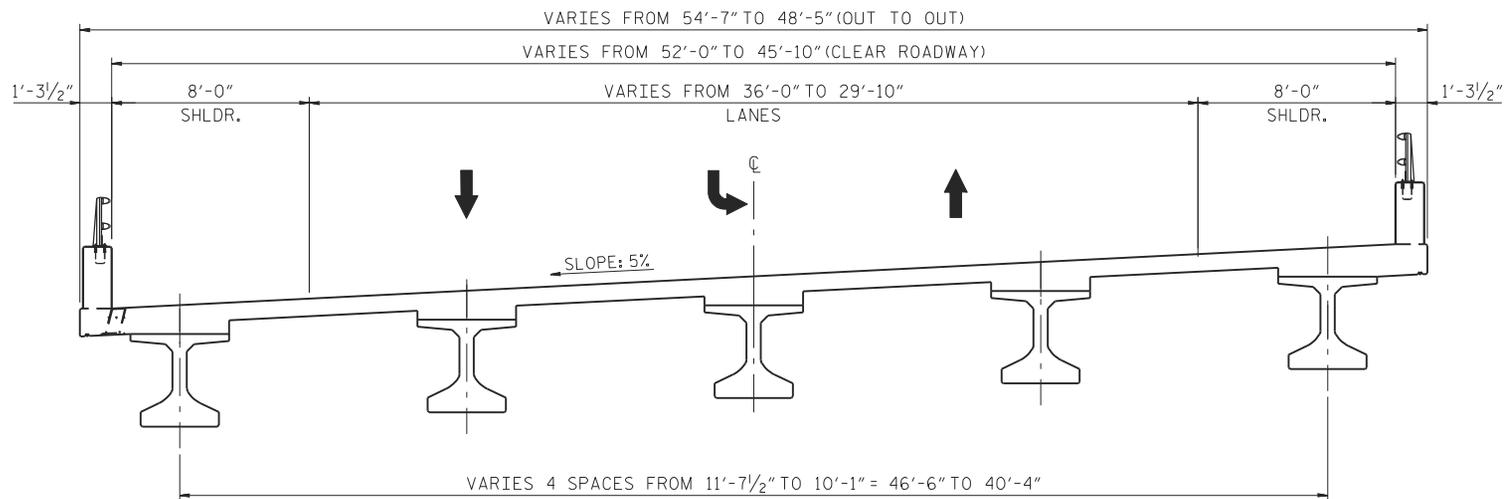
REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 4 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
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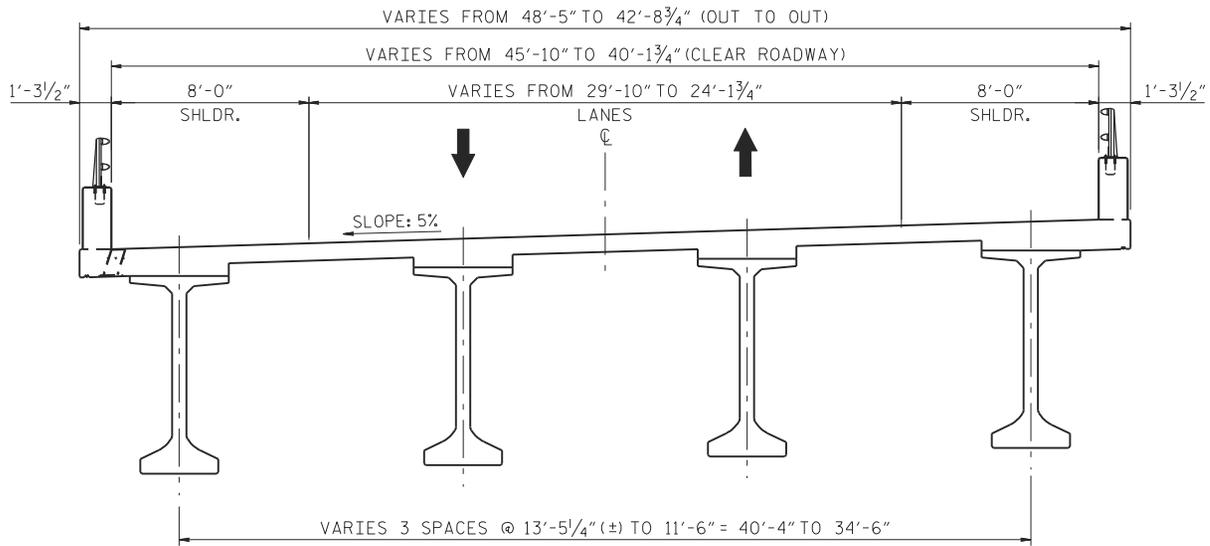


TYPICAL SECTION SPANS 1 & 2

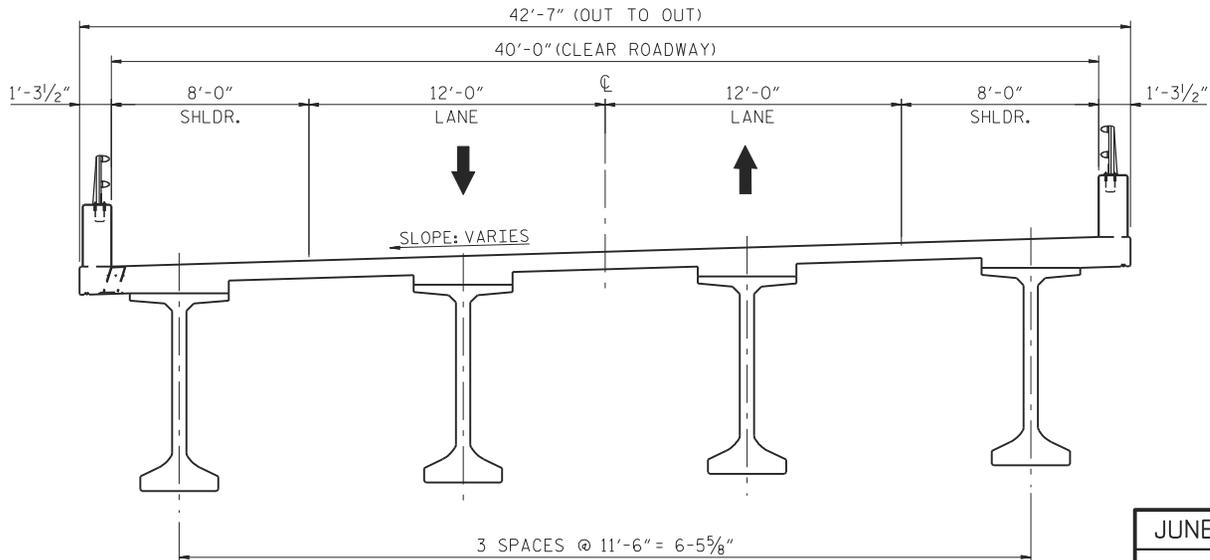


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JUNE 4, 2012	SHEET 5 OF 25
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH	
DARE COUNTY PROPOSED BRIDGE ON NEW LOCATION OF NC 12 OVER THE OREGON INLET BETWEEN RODANTHE AND NAGS HEAD 0.5 MILES WEST OF THE ATLANTIC OCEAN	
STATE PROJECT NO.: B-2500 (PHASE I)	



TYPICAL SECTION SPAN 3

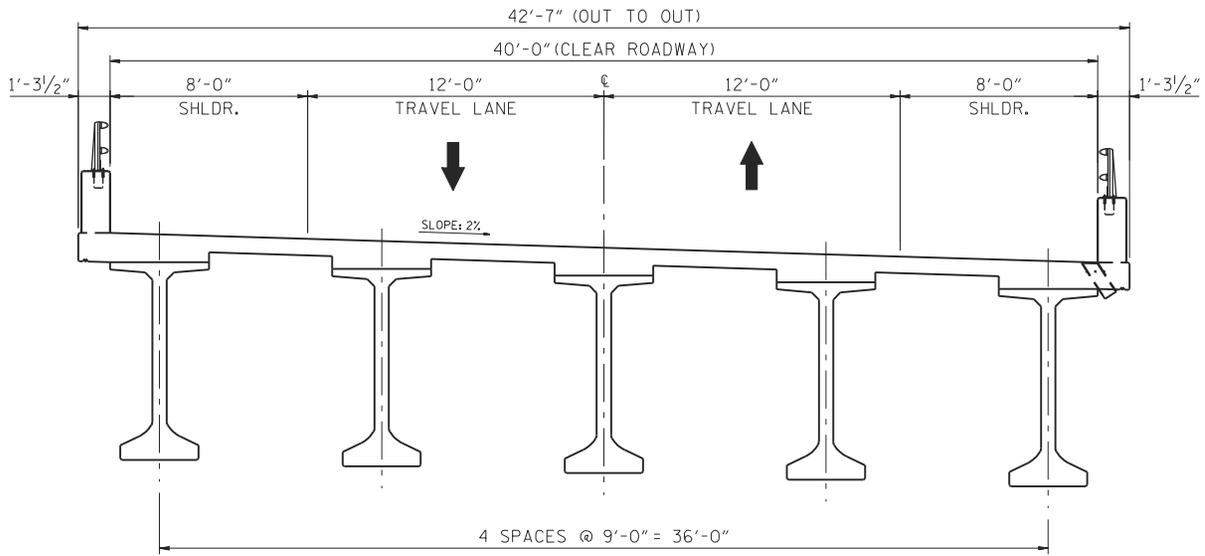


TYPICAL SECTION SPAN 4-6

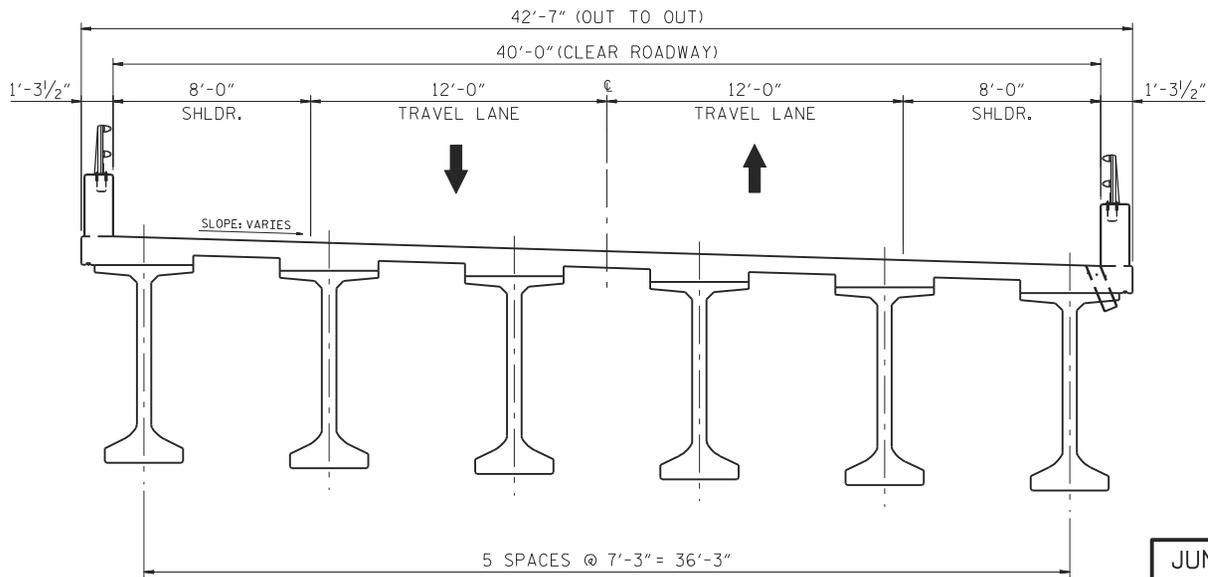


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STATE PROJECT NO.: B-2500 (PHASE I)	



TYPICAL SECTION SPANS 7-13



TYPICAL SECTION SPANS 14-18



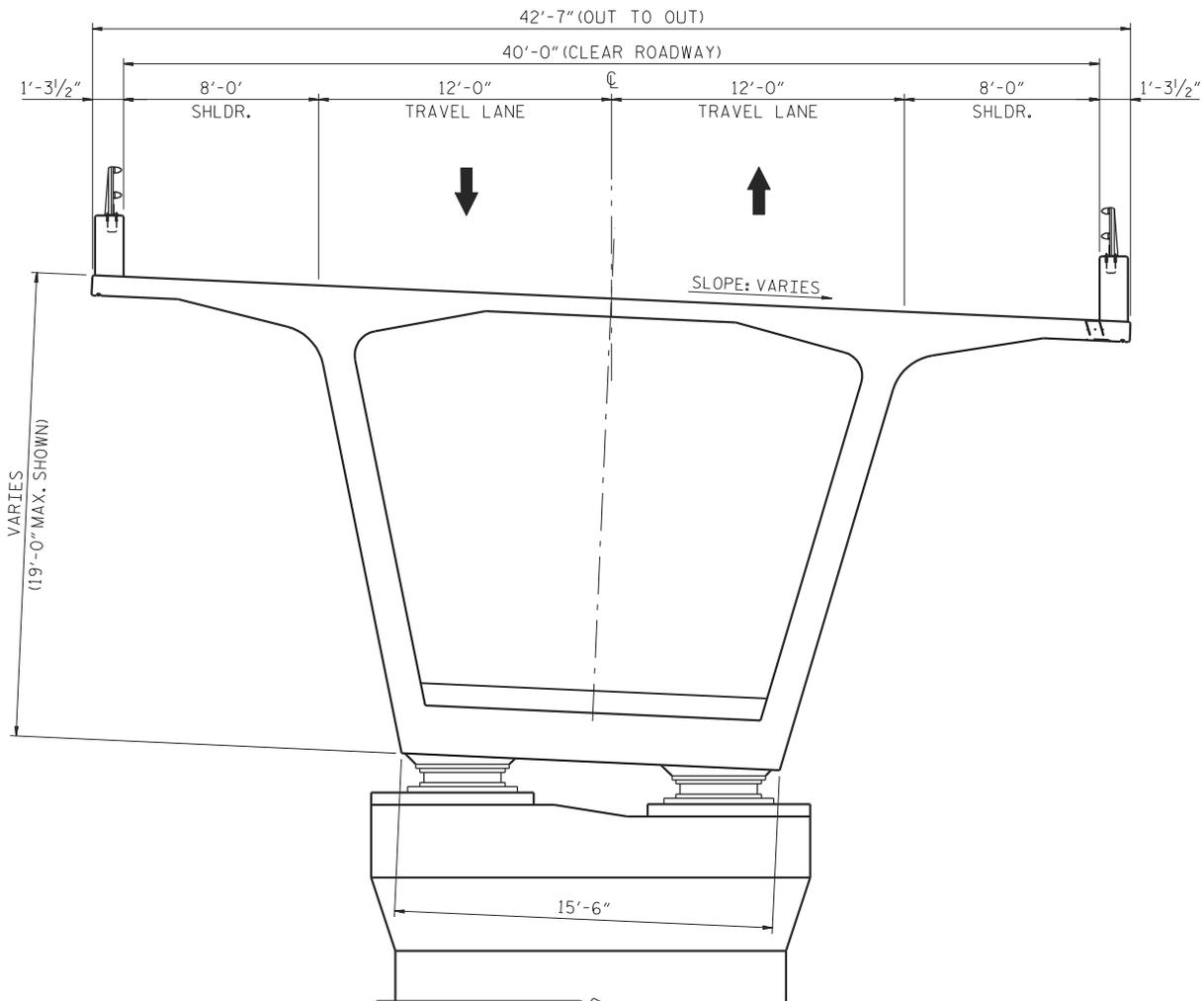
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JUNE 4, 2012 SHEET 7 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
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STATE PROJECT NO.: B-2500 (PHASE I)

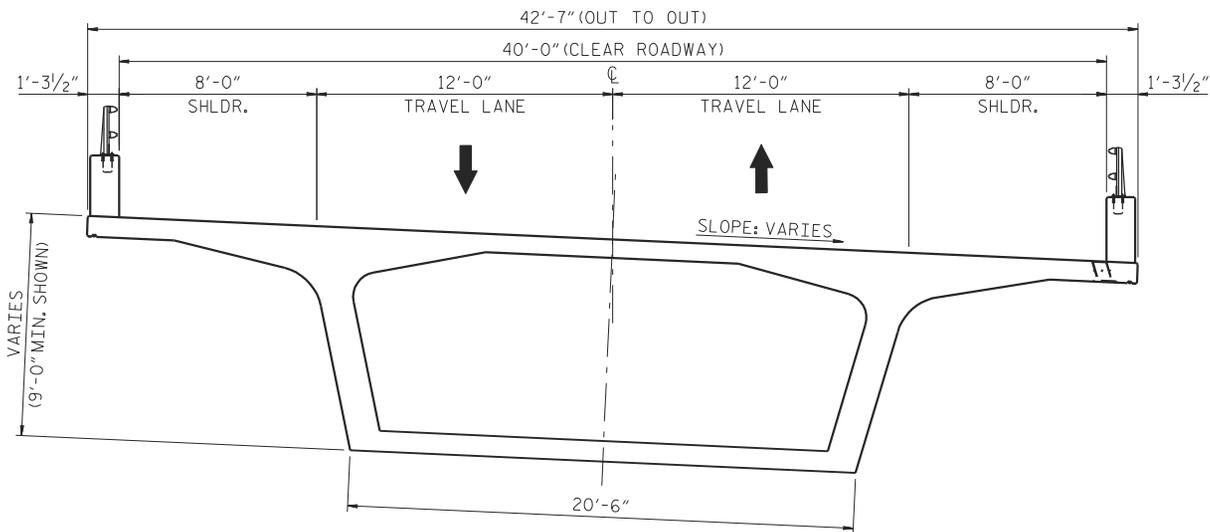


TYPICAL SECTION SPANS 19-29  
( MAXIMUM DEPTH SECTION SHOWN )



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JUNE 4, 2012	SHEET 8 OF 25
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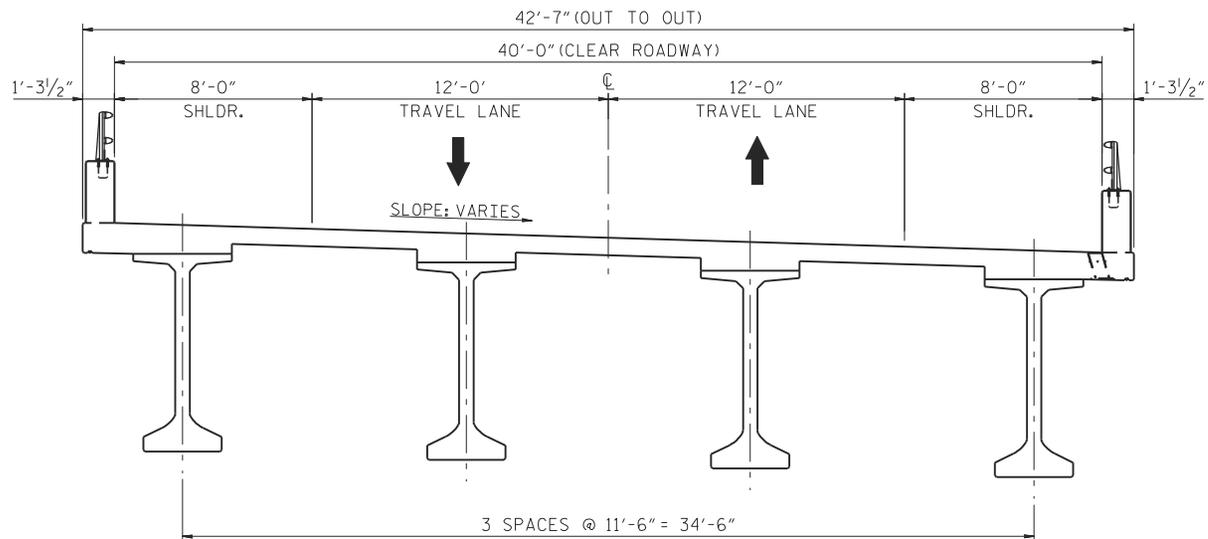


TYPICAL SECTION SPANS 19-29  
( MINIMUM DEPTH SECTION SHOWN )

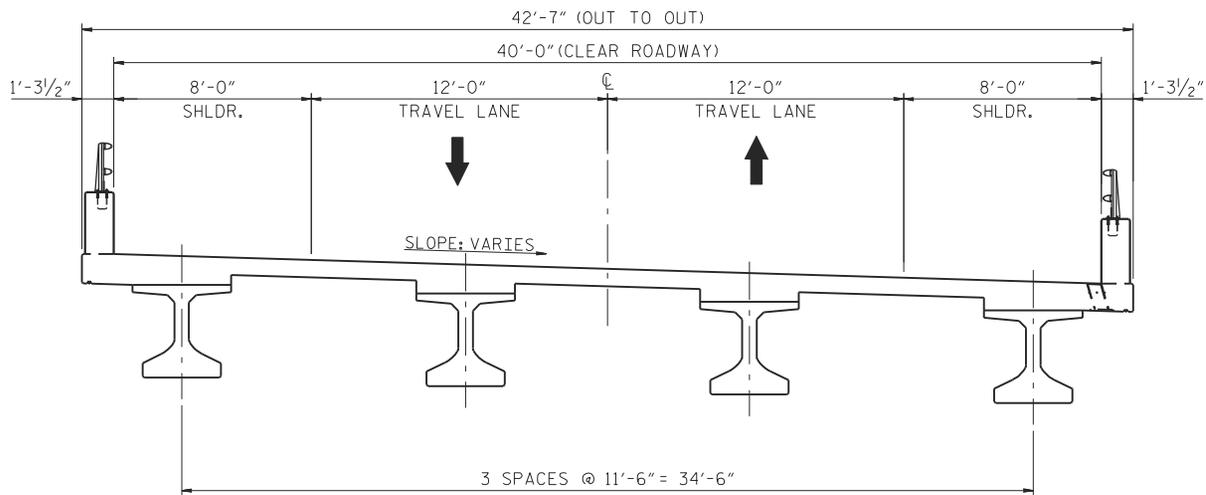


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JUNE 4, 2012	SHEET 9 OF 25
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TYPICAL SECTION SPANS 30-80

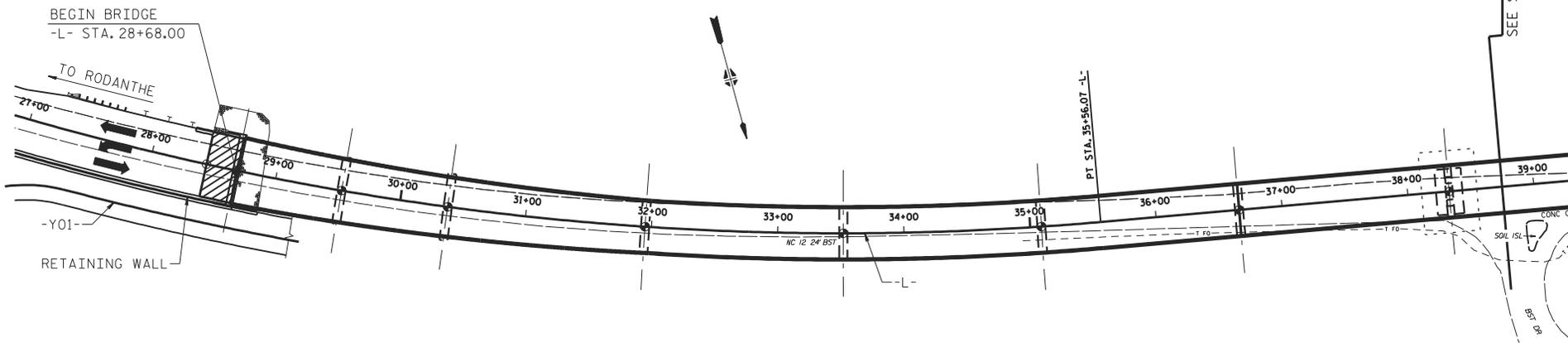
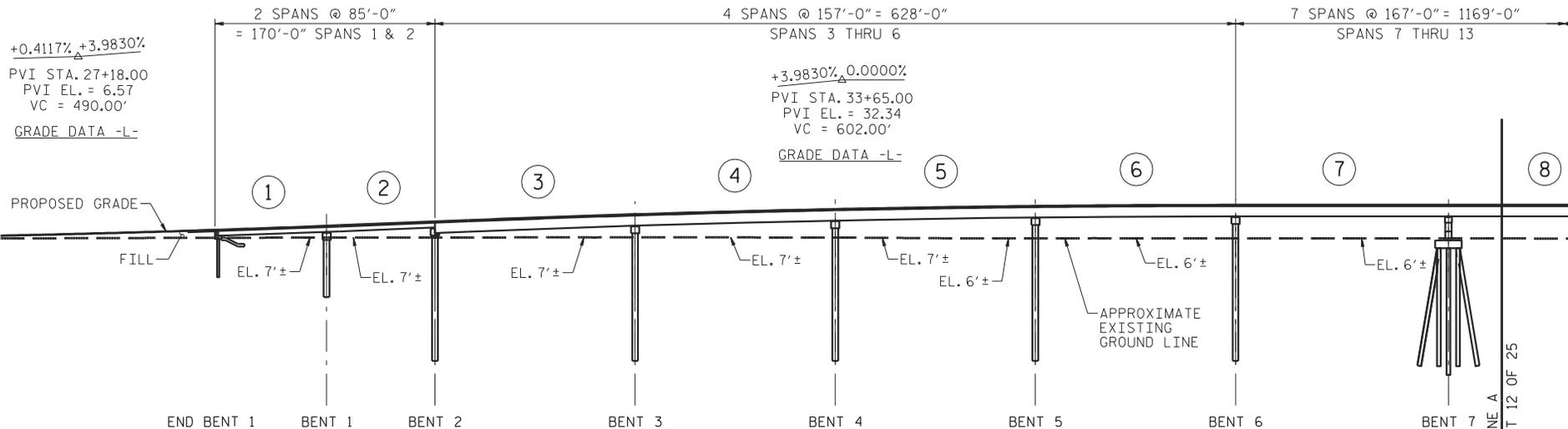


TYPICAL SECTION SPANS 81 & 82



NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

JUNE 4, 2012	SHEET 10 OF 25
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REPLACES BRIDGE NO. 11  
 JUNE 4, 2012 SHEET 11 OF 25

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

DARE COUNTY  
 PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
 OVER THE OREGON INLET  
 BETWEEN RODANTHE AND NAGS HEAD  
 0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)

HORIZONTAL  
 CURVE DATA -L-

PI STA 27+27.13  
 $\Delta = 42^\circ 32' 29.0''$  (LT)  
 $D = 2^\circ 26' 28.4''$   
 $L = 1,742.62'$   
 $T = 913.67'$   
 $R = 2,347.00'$

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7 SPANS @ 167'-0" = 1169'-0"  
SPANS 7 THRU 13

5 SPANS @ 182'-0" =  
910'-0" SPANS 14 THRU 18

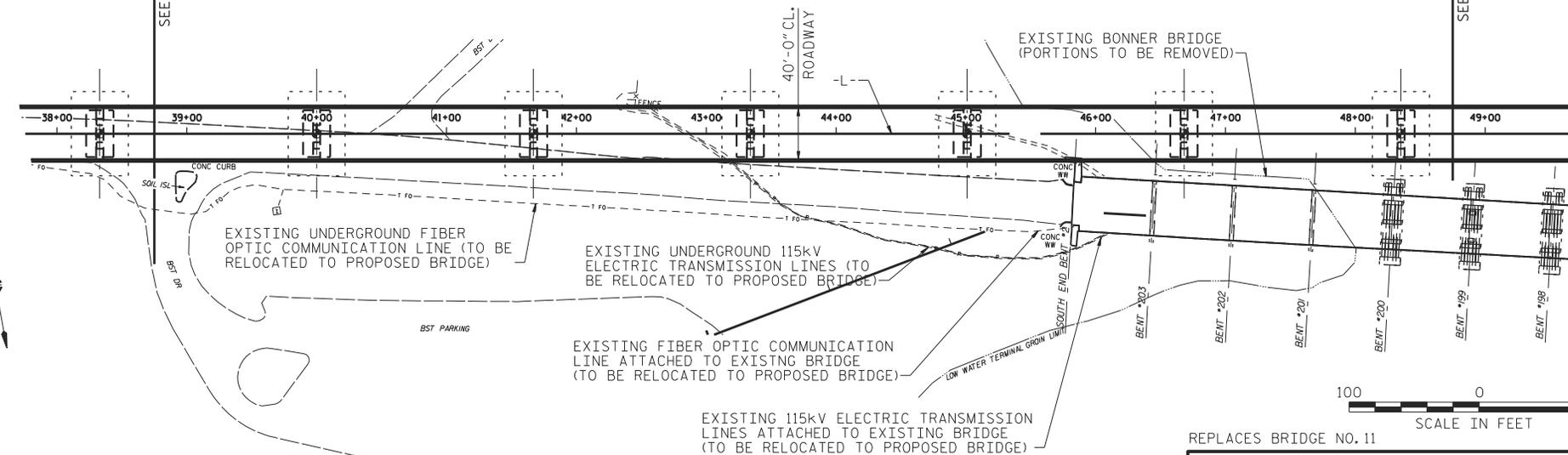
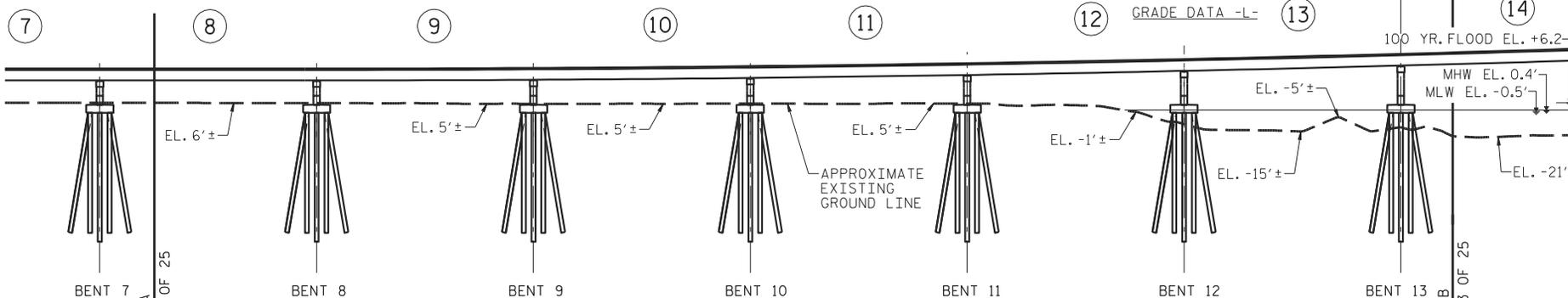
0.0000% +4.9966%

PVI STA. 47+73.00  
PVI EL. = 32.34  
VC = 1564.00'

GRADE DATA -L-

100 YR. FLOOD EL. +6.2'

MHW EL. 0.4'  
MLW EL. -0.5'



REPLACES BRIDGE NO. 11

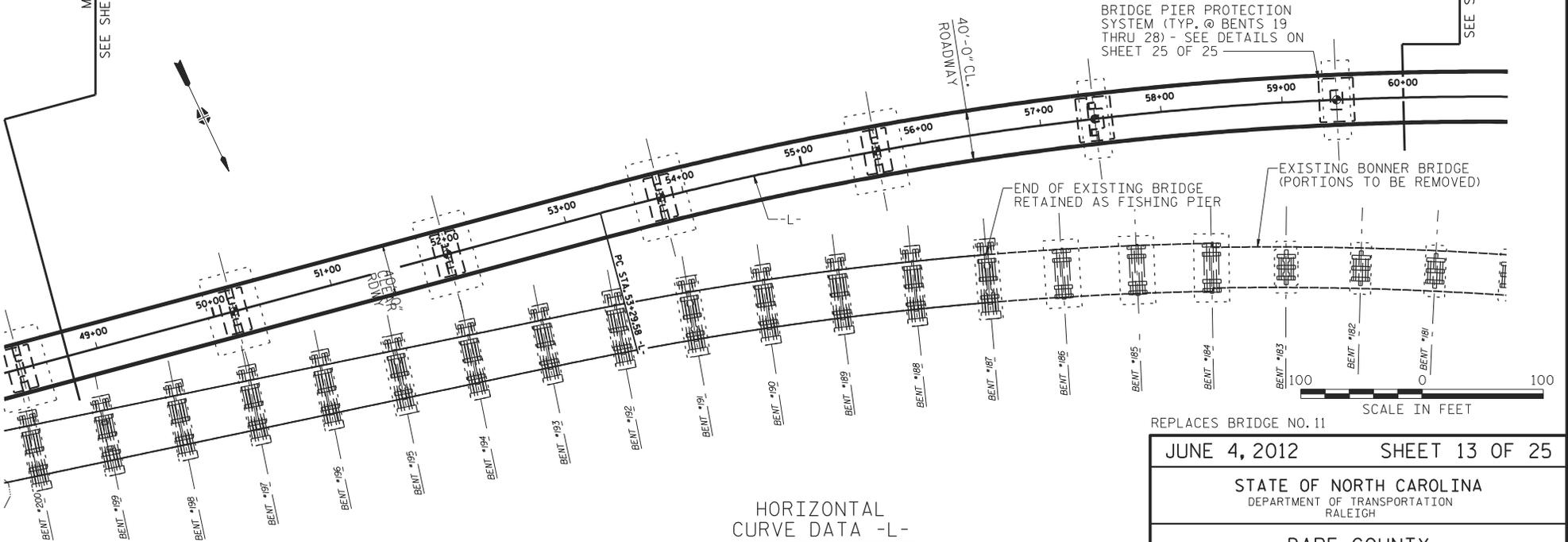
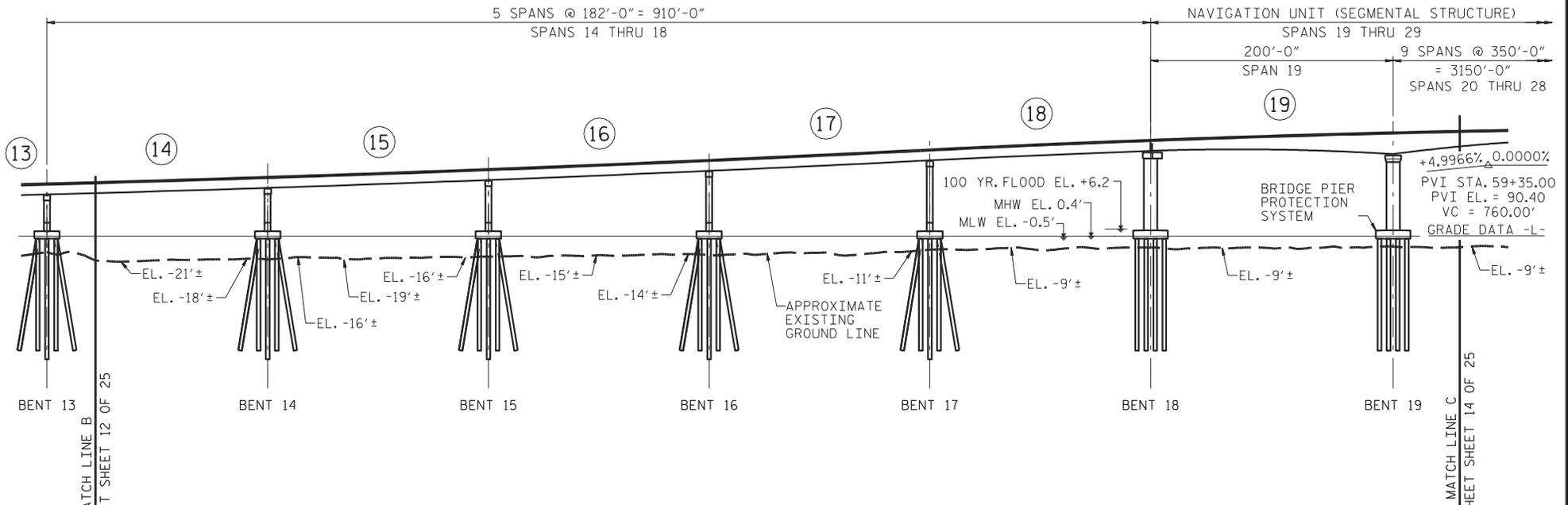
JUNE 4, 2012 SHEET 12 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
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HORIZONTAL CURVE DATA -L-

PI STA 62+28.30  
 $\Delta = 35^\circ 24' 44.6''$  (RT)  
 $D = 2^\circ 02' 07.3''$   
 $L = 1,739.85'$   
 $T = 898.72'$   
 $R = 2,815.00'$

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 13 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
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STATE PROJECT NO.: B-2500 (PHASE I)

NAVIGATION UNIT (SEGMENTAL STRUCTURE)

SPANS 19 THRU 29

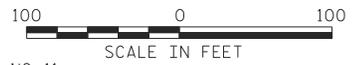
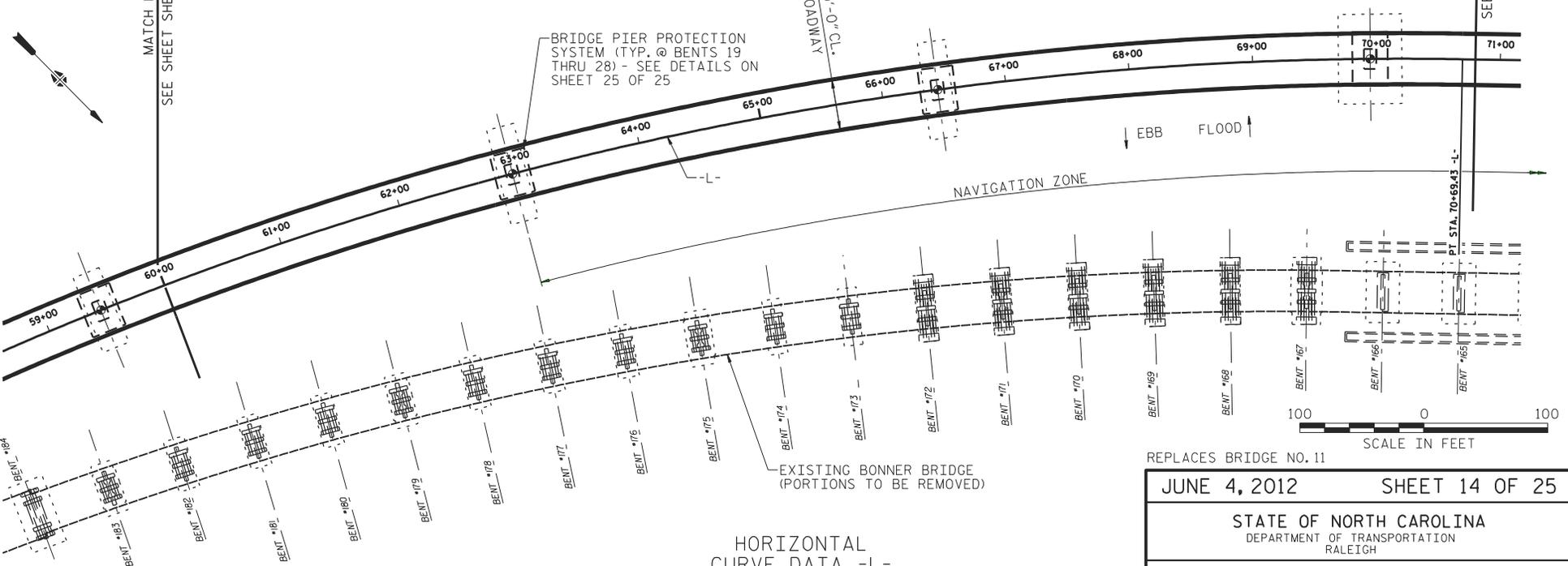
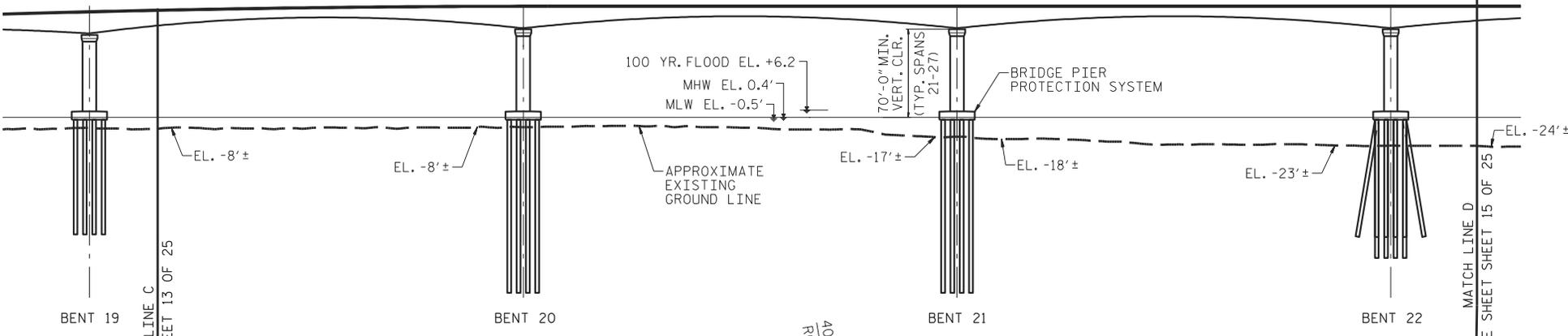
9 SPANS @ 350'-0" = 3150'-0"

SPANS 20 THRU 28

200'-0"  
SPAN 19

+4.9966% 0.0000%  
PVI STA. 59+35.00  
PVI EL. = 90.40  
VC = 760.00'  
GRADE DATA -L-

(19) (20) (21) (22) (23)



NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

HORIZONTAL CURVE DATA -L-

PI STA 62+28.30  
Δ = 35° 24' 44.6" (RT)  
D = 2° 02' 07.3"  
L = 1,739.85'  
T = 898.72'  
R = 2,815.00'

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JUNE 4, 2012 SHEET 14 OF 25

STATE OF NORTH CAROLINA  
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RALEIGH

DARE COUNTY  
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NAVIGATION UNIT (SEGMENTAL STRUCTURE)

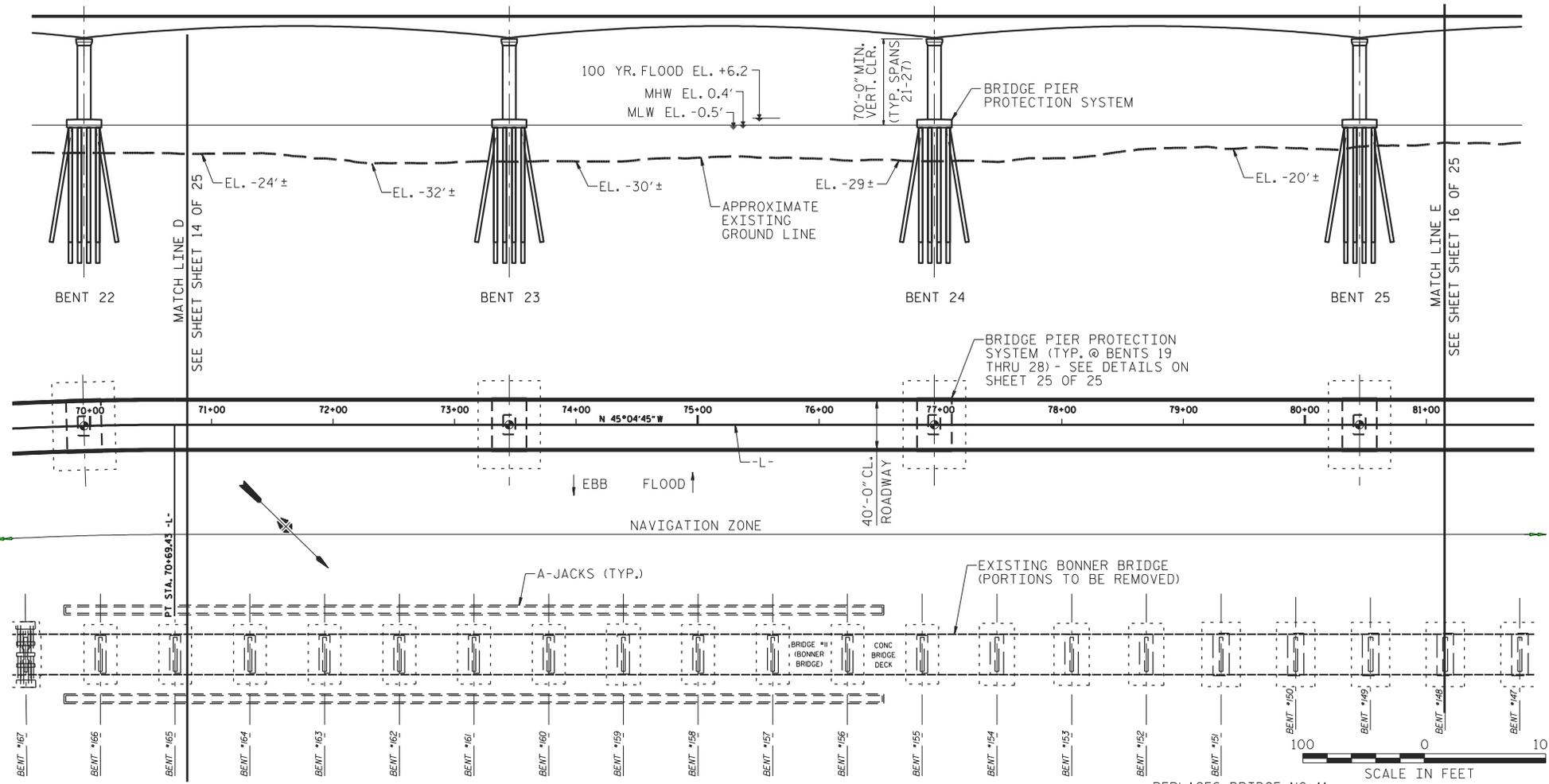
SPANS 19 THRU 29

9 SPANS @ 350'-0" = 3150'-0"

SPANS 20 THRU 28

0.0000%  
PVI EL. = 90.40  
GRADE DATA -L-

(22) (23) (24) (25) (26)



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JUNE 4, 2012 SHEET 15 OF 25

STATE OF NORTH CAROLINA  
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DARE COUNTY  
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STATE PROJECT NO.: B-2500 (PHASE I)

NAVIGATION UNIT (SEGMENTAL STRUCTURE)

SPANS 19 THRU 29

9 SPANS @ 350'-0" = 3150'-0"

SPANS 20 THRU 28

200'-0"

SPAN 29

0.0000%  $\Delta$  -4.9991%

PVI STA. 91+45.00

PVI EL. = 90.40

VC = 760.00'

GRADE DATA -L-

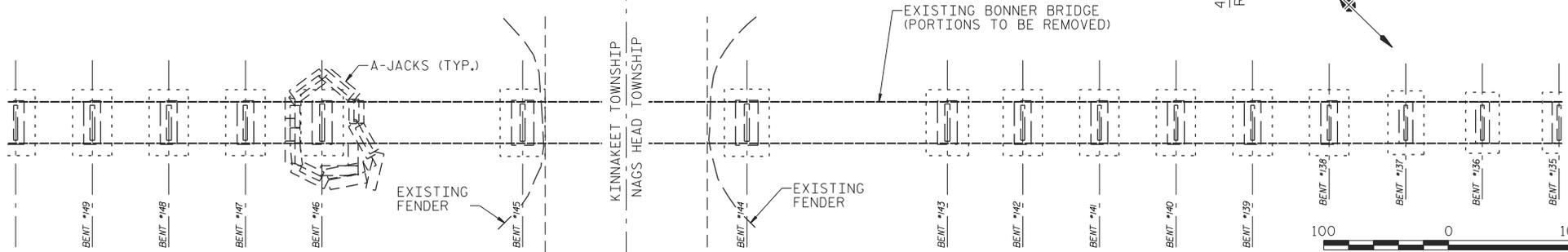
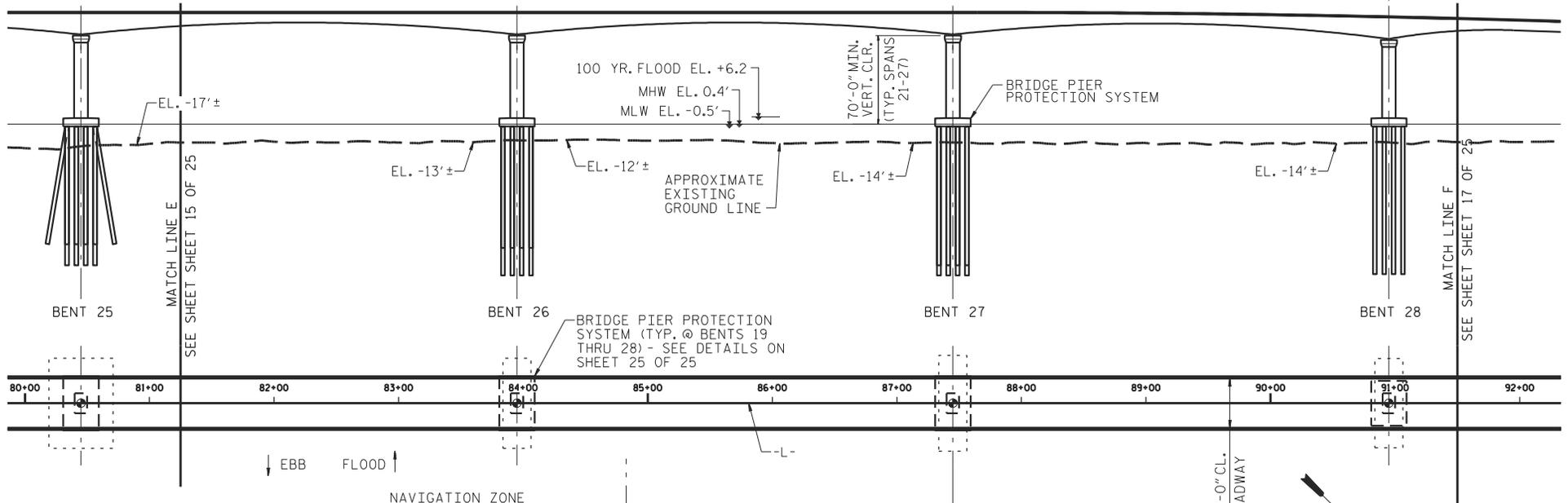
(25)

(26)

(27)

(28)

(29)



REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 16 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
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APPROX. C. EXISTING NAVIGATION CHANNEL  
65'-0"± 65'-0"±  
130'-0"±  
EXIST. NAVIGABLE CHANNEL (FOR REFERENCE ONLY)

NAVIGATION UNIT (SEGMENTAL STRUCTURE)

6 SPANS @ 160'-10" = 965'-0"

SPANS 19 THRU 29

SPANS 30 THRU 35

9 SPANS @ 350'-0" = 3150'-0"  
SPANS 20 THRU 28

200'-0"

SPAN 29

0.0000%  $\Delta$  -4.9991%

PVI STA. 91+45.00

PVI EL. = 90.40

VC = 760.00'

GRADE DATA -L-

(28)

(29)

(30)

(31)

(32)

(33)

(34)

(35)

(36)

BRIDGE PIER PROTECTION SYSTEM

100 YR. FLOOD EL. +6.2  
MHW EL. 0.4'  
MLW EL. -0.5'

EL. -14'±

EL. -15'±

EL. -14'±

EL. -14'±

EL. -17'±

EL. -18'±

APPROXIMATE EXISTING GROUND LINE

BENT 28

BENT 29

BENT 30

BENT 31

BENT 32

BENT 33

BENT 34

BENT 35

MATCH LINE F  
SEE SHEET  
SHEET 16 OF 25

MATCH LINE G  
SEE SHEET  
SHEET 18 OF 25

BRIDGE PIER PROTECTION SYSTEM (TYP. @ BENTS 19 THRU 28) - SEE DETAILS ON SHEET 25 OF 25

EXISTING BONNER BRIDGE (PORTIONS TO BE REMOVED)

40'-0" CL. ROADWAY

PC STA. 102+46.84 -L-

BENT #17

BENT #16

BENT #15

BENT #14

BENT #13

BENT #12

BENT #11

BENT #10

BENT #9

BENT #8

BENT #7

BENT #6

BENT #5

BENT #4

BENT #3

BENT #2

BENT #1

BENT #10

BENT #9

BENT #8

100 0 100  
SCALE IN FEET

REPLACES BRIDGE NO. 11

JUNE 4, 2012

SHEET 17 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

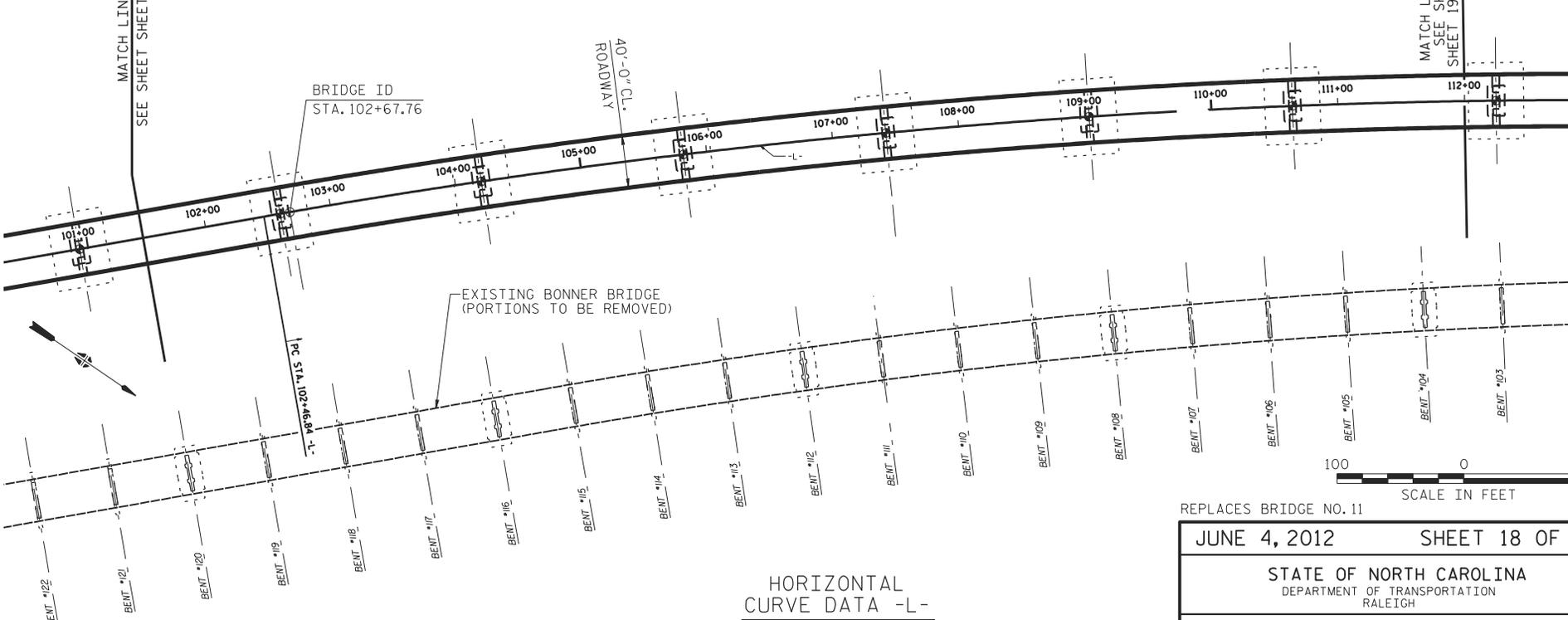
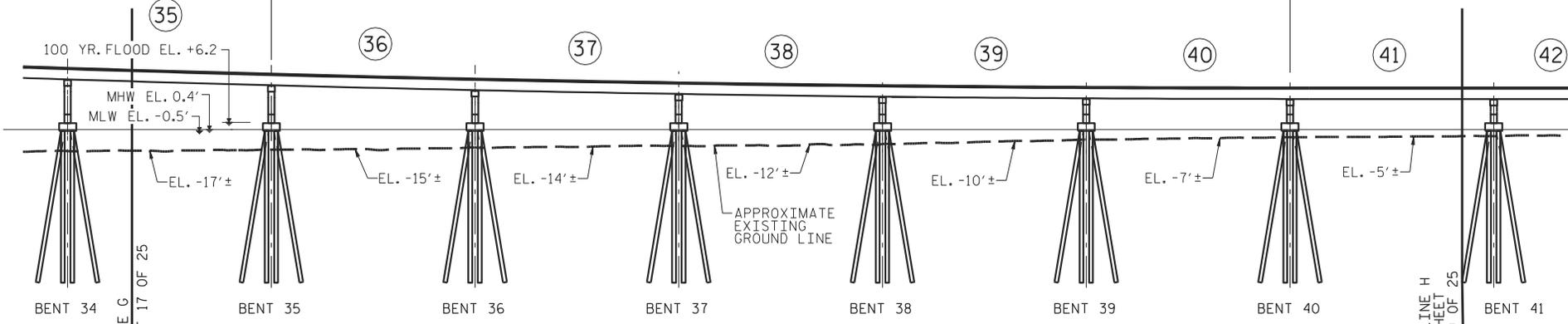
DARE COUNTY  
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OVER THE OREGON INLET  
BETWEEN RODANTHE AND NAGS HEAD  
0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

6 SPANS @ 160'-10" = 965'-0" SPANS 30 TO 35  
 5 SPANS @ 160'-10" = 804'-2" SPANS 36 TO 40  
 5 SPANS @ 160'-10" = 804'-2" SPANS 41 TO 45

-4.9991% 0.0000%  
 PVI STA. 103+02.00  
 PVI EL. = 32.56  
 VC = 1554.00'  
 GRADE DATA -L-



HORIZONTAL CURVE DATA -L-

PI STA 128+03.63  
 $\Delta = 45^\circ 49' 07.9''$  (RT)  
 $D = 0^\circ 56' 49.3''$   
 $L = 4,838.13'$   
 $T = 2,556.79'$   
 $R = 6,050.00'$

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 18 OF 25

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

DARE COUNTY

PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
 OVER THE OREGON INLET  
 BETWEEN RODANTHE AND NAGS HEAD  
 0.5 MILES WEST OF THE ATLANTIC OCEAN

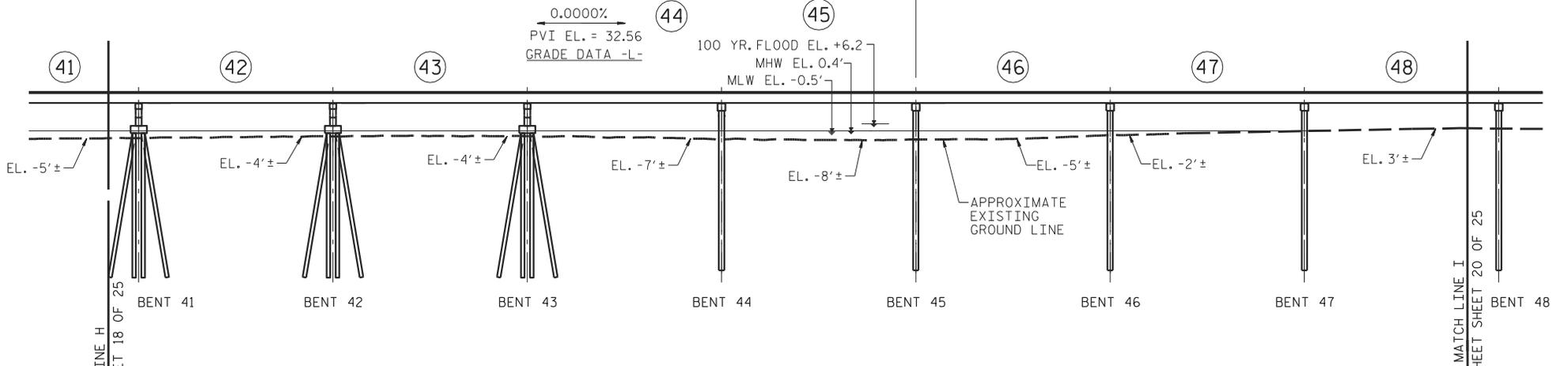
STATE PROJECT NO.: B-2500 (PHASE I)

5 SPANS @ 160'-10" = 804'-2"  
SPANS 41 THRU 45

6 SPANS @ 160'-10" = 965'-0"  
SPANS 46 THRU 51

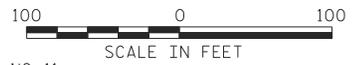
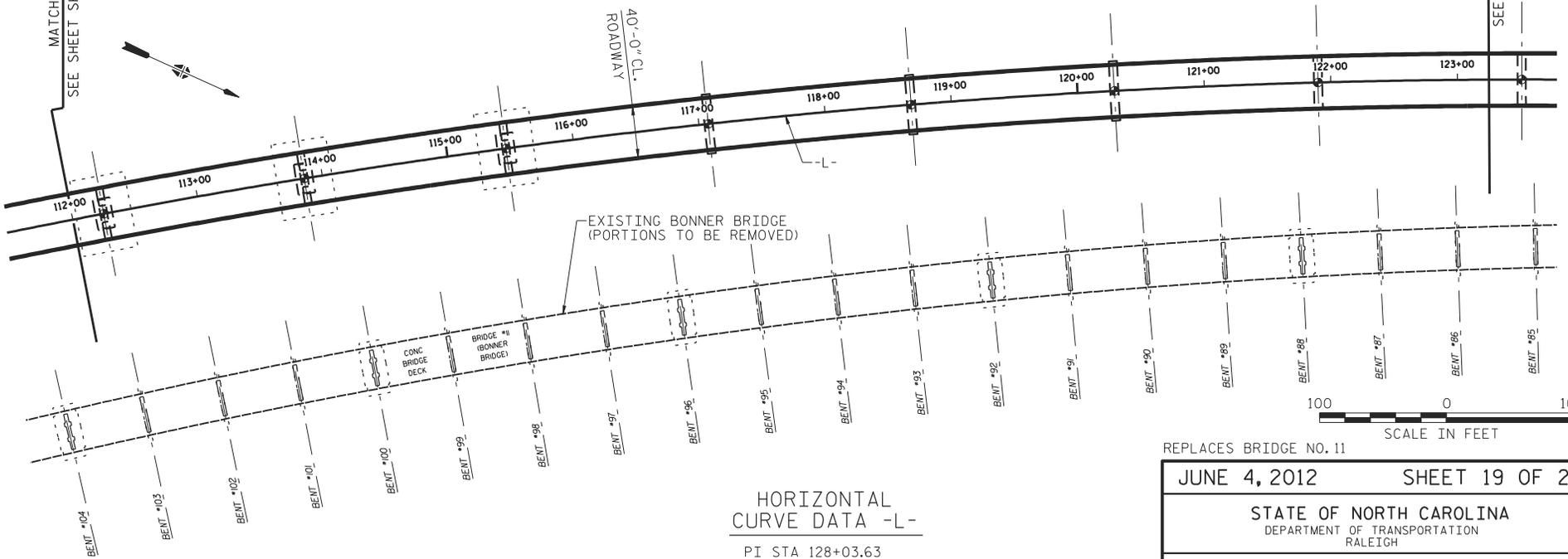
0.0000%  
PVI EL. = 32.56  
GRADE DATA -L-

100 YR. FLOOD EL. +6.2  
MHW EL. 0.4'  
MLW EL. -0.5'



MATCH LINE H  
SEE SHEET 18 OF 25

MATCH LINE I  
SEE SHEET 20 OF 25



HORIZONTAL  
CURVE DATA -L-

PI STA 128+03.63  
Δ = 45° 49' 07.9" (RT)  
D = 0° 56' 49.3"  
L = 4,838.13'  
T = 2,556.79'  
R = 6,050.00'

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 19 OF 25

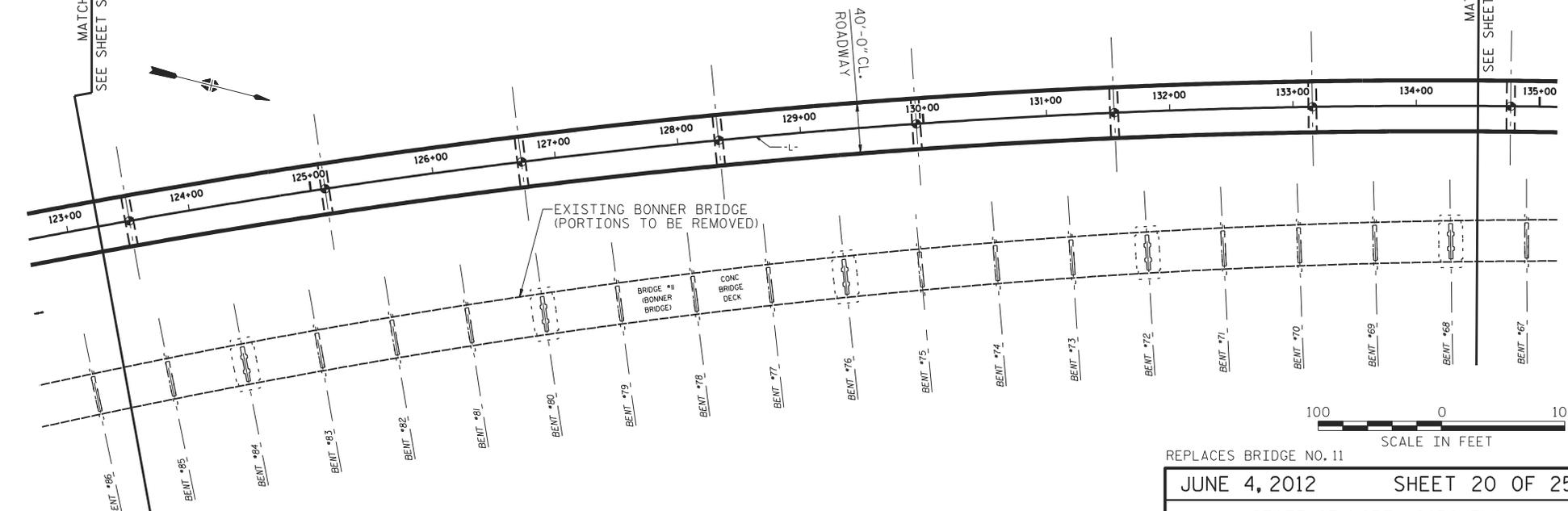
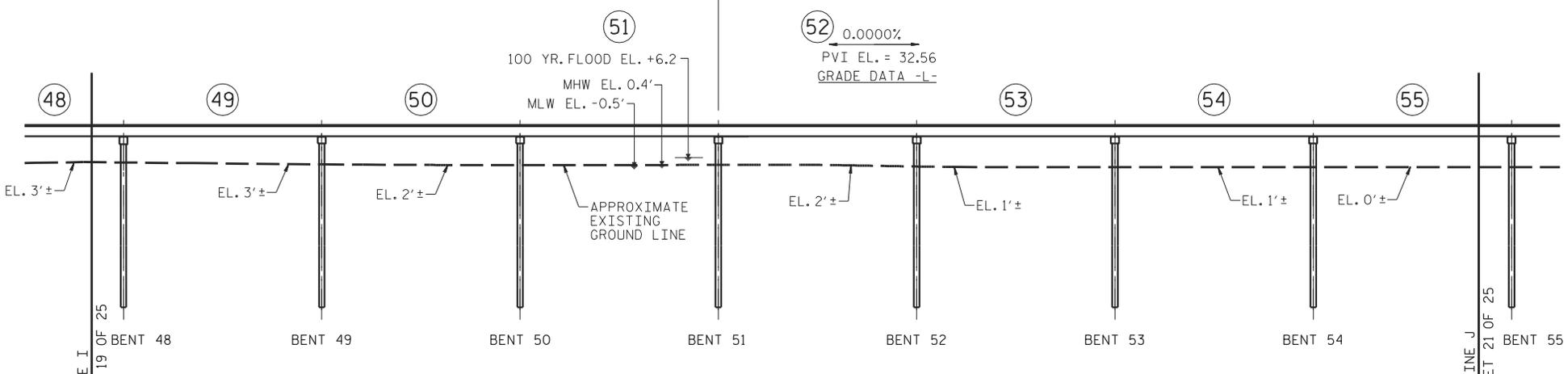
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
OVER THE OREGON INLET  
BETWEEN RODANTHE AND NAGS HEAD  
0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)

6 SPANS @ 160'-10" = 965'-0" SPANS 46 THRU 51

6 SPANS @ 160'-10" = 965'-0" SPANS 52 THRU 57



NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

HORIZONTAL CURVE DATA -L-

PI STA 128+03.63  
 $\Delta = 45^\circ 49' 07.9''$  (RT)  
 $D = 0^\circ 56' 49.3''$   
 $L = 4,838.13'$   
 $T = 2,556.79'$   
 $R = 6,050.00'$

REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 20 OF 25

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

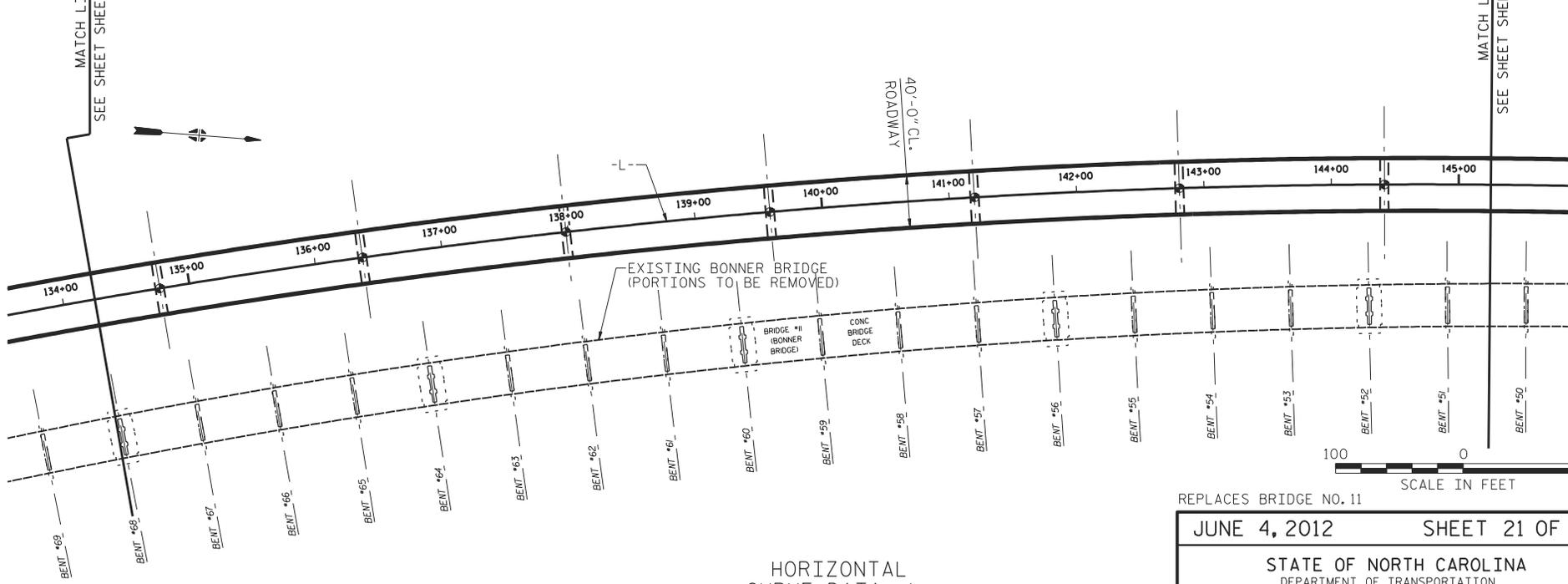
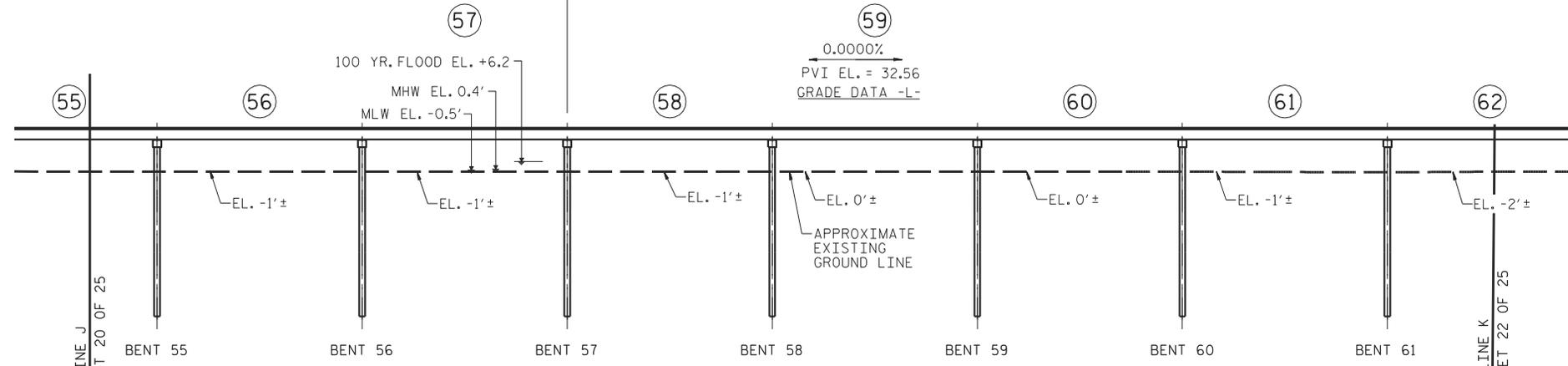
DARE COUNTY

PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
 OVER THE OREGON INLET  
 BETWEEN RODANTHE AND NAGS HEAD  
 0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)

6 SPANS @ 160'-10" = 965'-0"  
SPANS 52 THRU 57

6 SPANS @ 160'-10" = 965'-0"  
SPANS 58 THRU 63



NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

HORIZONTAL CURVE DATA -L-

PI STA 128+03.63  
 $\Delta = 45^\circ 49' 07.9''$  (RT)  
 $D = 0^\circ 56' 49.3''$   
 $L = 4,838.13'$   
 $T = 2,556.79'$   
 $R = 6,050.00'$

REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 21 OF 25

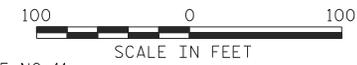
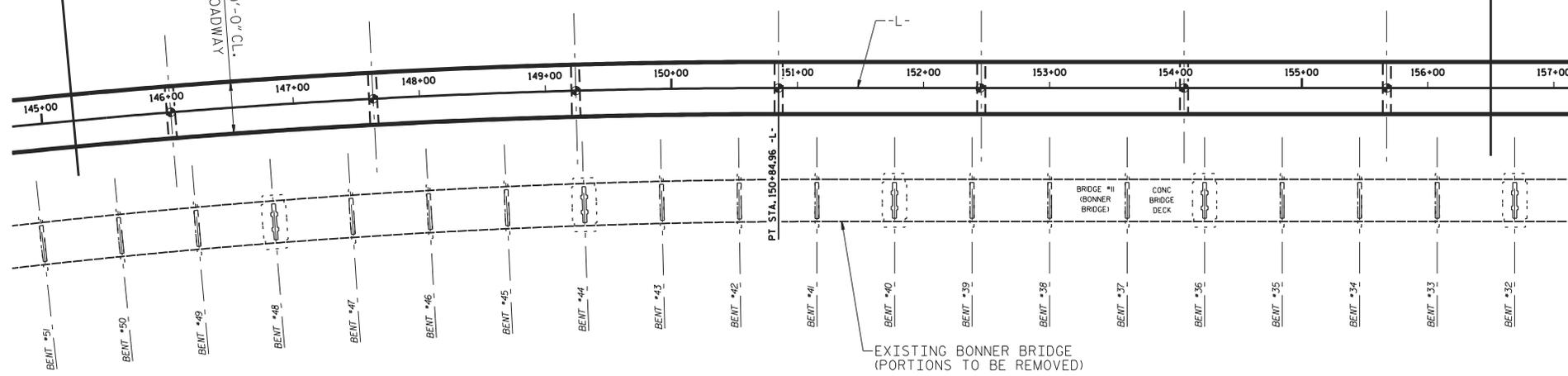
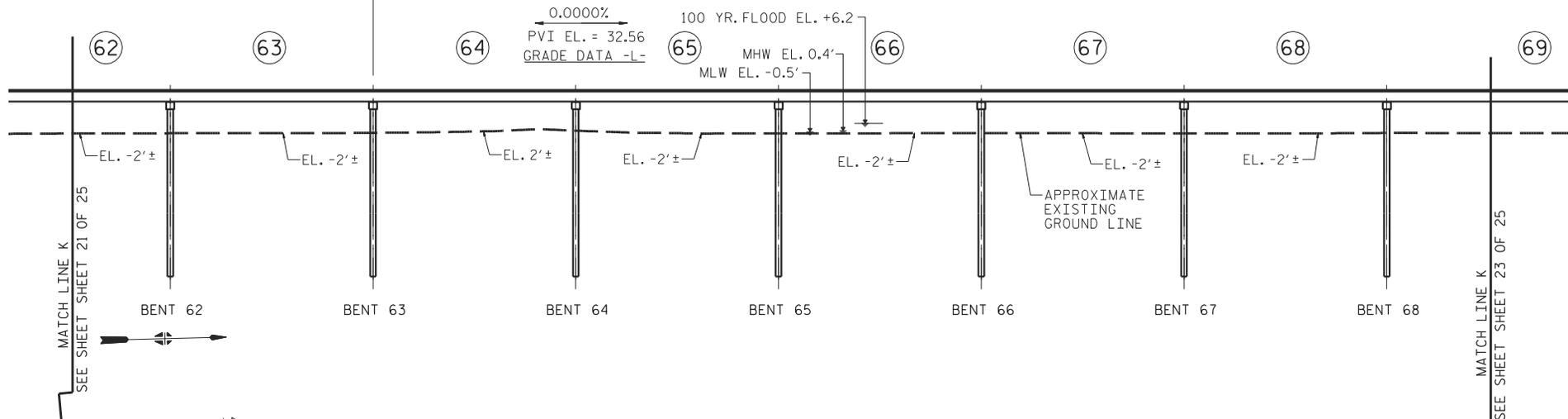
STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

DARE COUNTY

PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
 OVER THE OREGON INLET  
 BETWEEN RODANTHE AND NAGS HEAD  
 0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)

5 SPANS @ 160'-10" = 804'-2" SPANS 58 THRU 63  
 6 SPANS @ 160'-10" = 965'-0" SPANS 64 THRU 69



REPLACES BRIDGE NO. 11  
 JUNE 4, 2012 SHEET 22 OF 25

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

DARE COUNTY  
 PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
 OVER THE OREGON INLET  
 BETWEEN RODANTHE AND NAGS HEAD  
 0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)

HORIZONTAL  
 CURVE DATA -L-

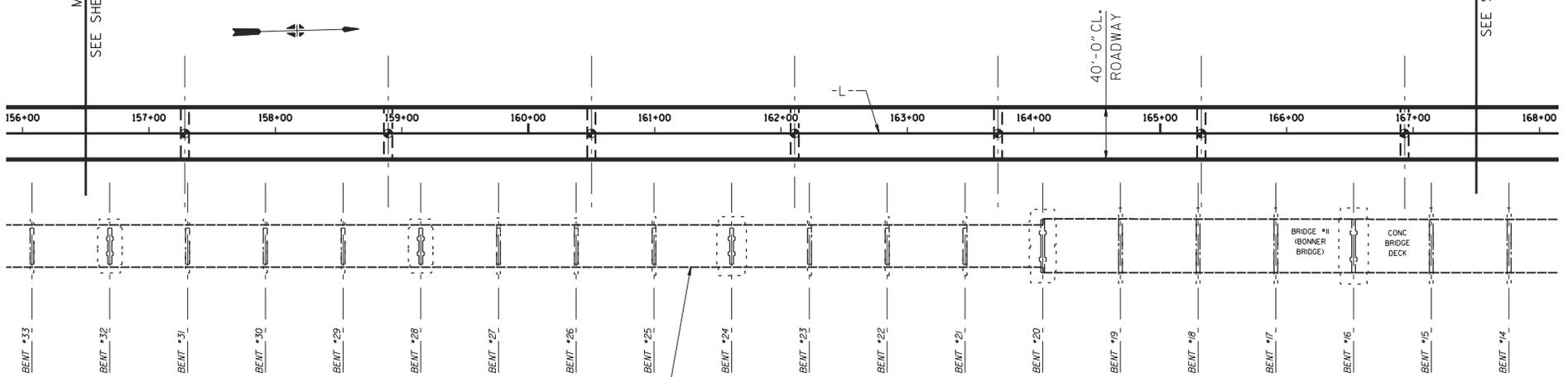
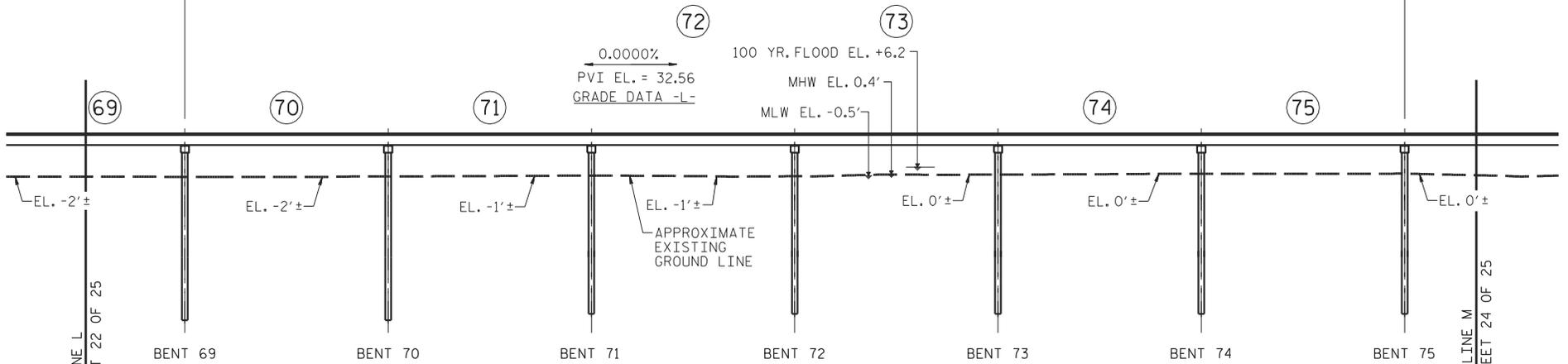
PI STA 128+03.63  
 $\Delta = 45^\circ 49' 07.9''$  (RT)  
 $D = 0^\circ 56' 49.3''$   
 $L = 4,838.13'$   
 $T = 2,556.79'$   
 $R = 6,050.00'$

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

6 SPANS @  
160'-10" = 965'-0"  
SPANS 64 THRU 69

6 SPANS @ 160'-10" = 965'-0"  
SPANS 70 THRU 75

6 SPANS @  
160'-10" = 965'-0"  
SPANS 76 THRU 80



REPLACES BRIDGE NO. 11

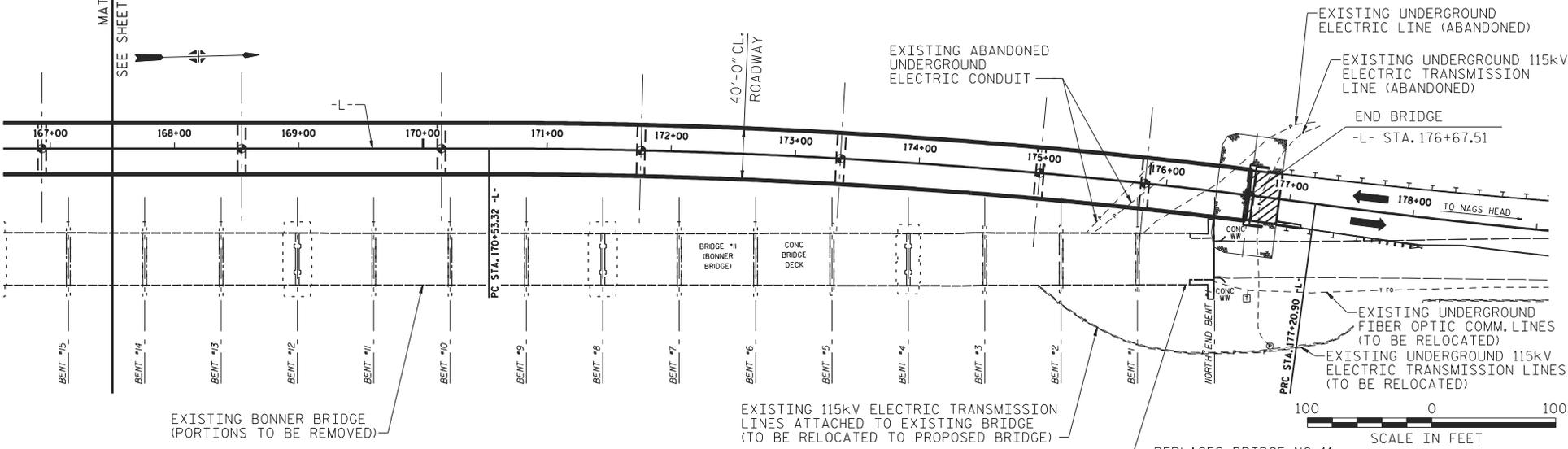
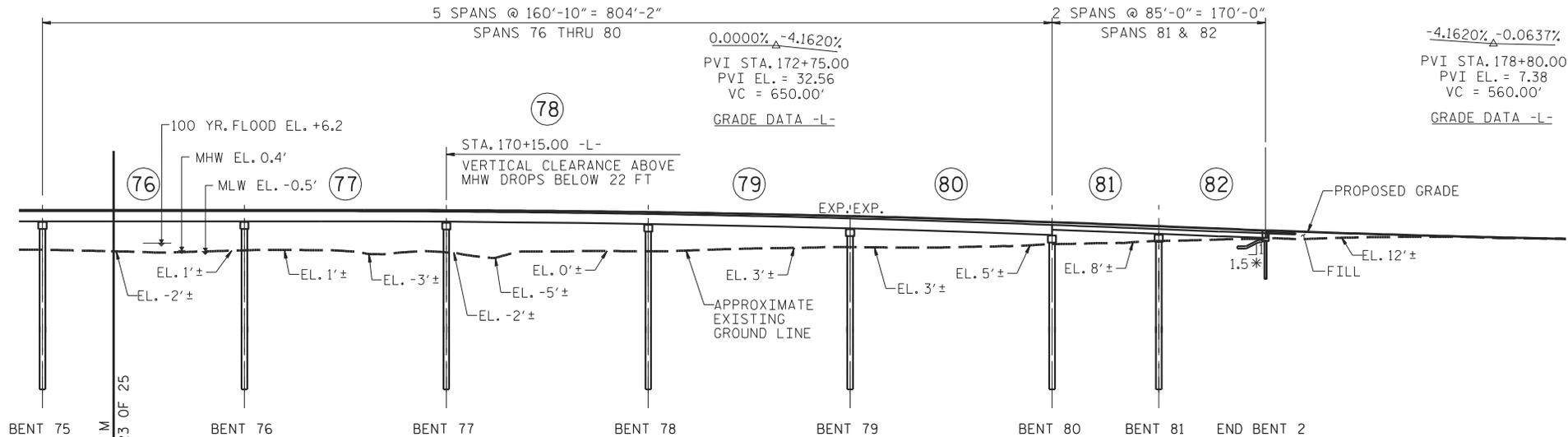
JUNE 4, 2012 SHEET 23 OF 25

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
OVER THE OREGON INLET  
BETWEEN RODANTHE AND NAGS HEAD  
0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS



HORIZONTAL  
CURVE DATA -L-

PI STA 173+87.60  
 $\Delta = 7^\circ 38' 59.6''$  (RT)  
 $D = 1^\circ 08' 45.3''$   
 $L = 667.58'$   
 $T = 334.29'$   
 $R = 5,000.00'$

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

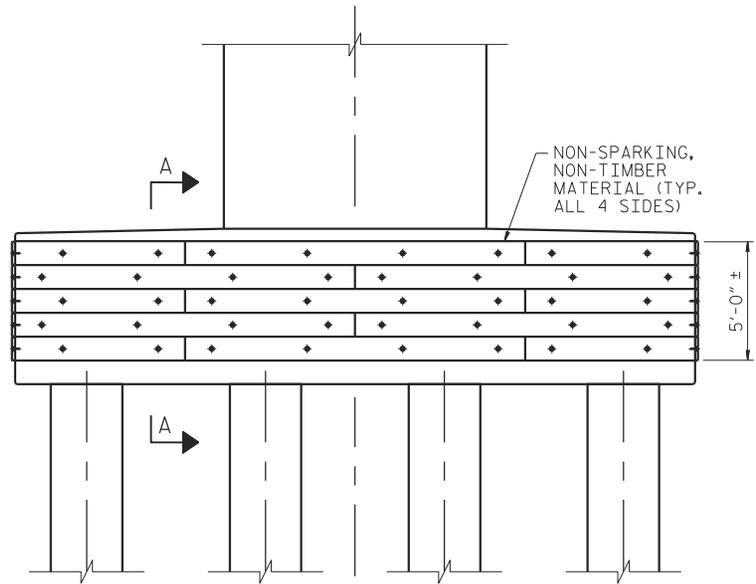
REPLACES BRIDGE NO. 11

JUNE 4, 2012 SHEET 24 OF 25

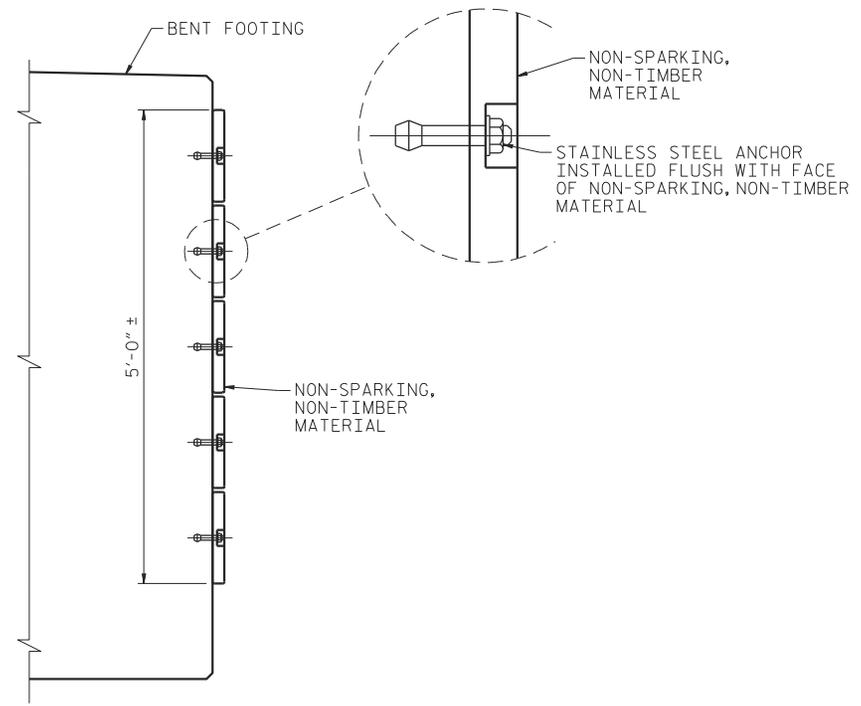
STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

DARE COUNTY  
PROPOSED BRIDGE ON NEW LOCATION OF NC 12  
OVER THE OREGON INLET  
BETWEEN RODANTHE AND NAGS HEAD  
0.5 MILES WEST OF THE ATLANTIC OCEAN

STATE PROJECT NO.: B-2500 (PHASE I)



TYP. PIER PROTECTION SYSTEM  
(TYPICAL AT BENTS 19 THRU 28)



SECTION A-A

NOTE: THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, INCLUDING REQUIREMENTS FOR VESSEL COLLISION. SEE SHEET 1 FOR DESIGN LOADS

REPLACES BRIDGE NO. 11

JUNE 4, 2012	SHEET 25 OF 25
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH	
DARE COUNTY PROPOSED BRIDGE ON NEW LOCATION OF NC 12 OVER THE OREGON INLET BETWEEN RODANTHE AND NAGS HEAD 0.5 MILES WEST OF THE ATLANTIC OCEAN	
STATE PROJECT NO.: B-2500 (PHASE I)	